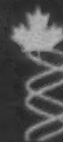
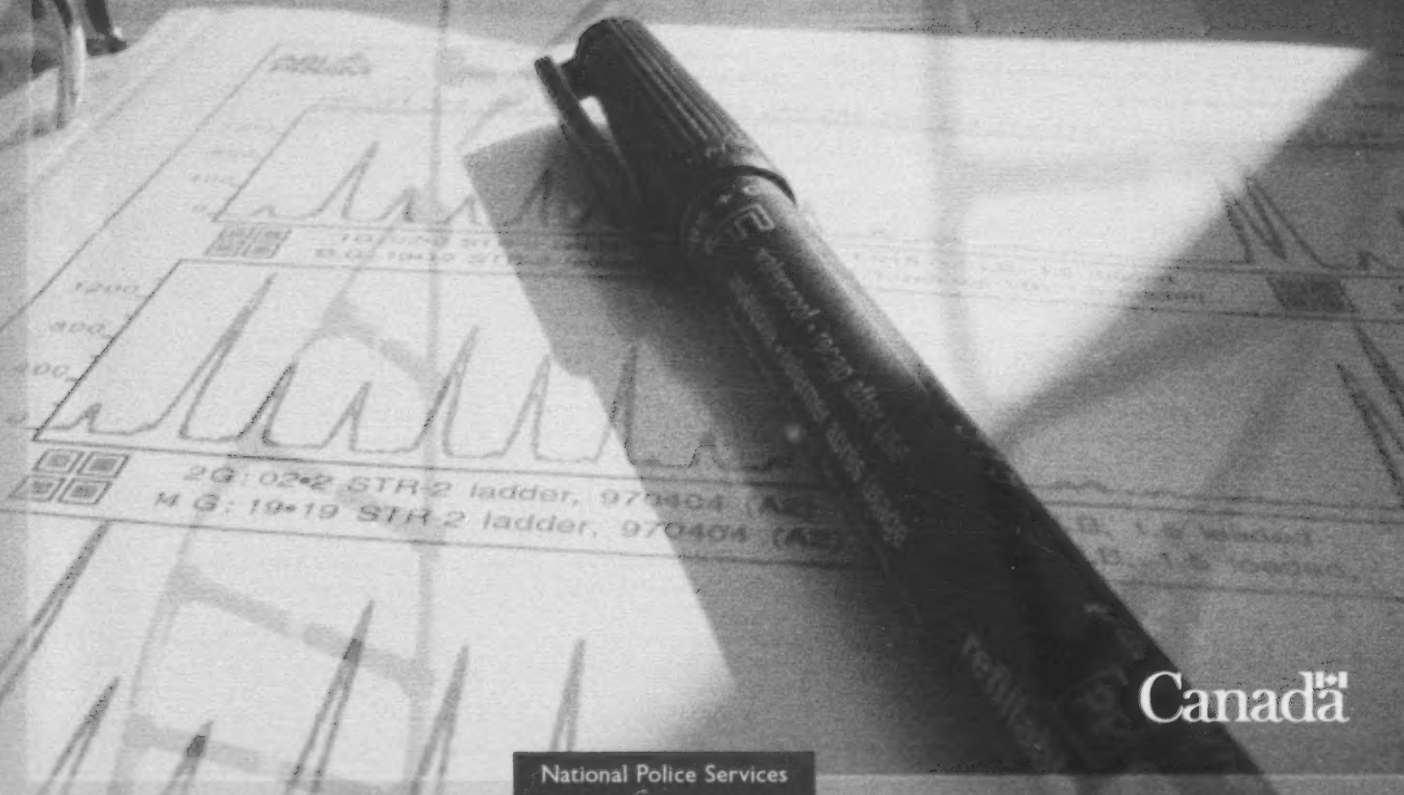


The National DNA Data Bank of Canada



ANNUAL REPORT • 2002-2003



Canada

National Police Services

www.nddb-bndg.org

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The Helix and Maple Leaf Design is a recognized symbol for quality and excellence in forensic DNA analysis developed as part of the innovation of the National DNA Data Bank. The National DNA Data Bank is a branch of the Forensic Laboratory Services which is part of the National Police Services, Royal Canadian Mounted Police. The Helix and Maple Leaf Design is an Official Trademark under the Trademark Act.

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TABLE OF CONTENTS

2	Message from the Commissioner of the Royal Canadian Mounted Police	25	Message from the National DNA Data Bank Advisory Committee
4	Message from the Chief, National Police Services	26	Message from the Officer-in-Charge of the National DNA Data Bank
5	Message from the Assistant Commissioner Forensic Laboratory Services	29	Appendix A: List of Primary Offences – <i>Criminal Code</i>
6	Executive Summary	30	Appendix B: List of Secondary Offences – <i>Criminal Code</i>
8	From the Front Lines	31	Introduction to Case Studies
10	DNA 101	32	Case Study 1: National DNA Data Bank Hit Solves Cold Case
14	The Working Science	33	Case Study 2: Cold Case Solved in Calgary
18	Key Statistics	34	Case Study 3: A Cross-Border Hit
23	Organizational Structure		
24	International Success		
24	Financial Statement		



Message from the Commissioner of the Royal Canadian Mounted Police

It gives me great pleasure to present the third Annual Report for Canada's National DNA Data Bank (NDDB). This year, the NDDB continued to help protect Canadians from criminal activity by providing the law enforcement community with a proven investigative tool in identifying and prosecuting repeat violent offenders and sex offenders.



2 Commissioner G. Zaccardelli
Royal Canadian Mounted Police

Since its inception in June 2000, pursuant to the *DNA Identification Act*, the National DNA Data Bank has revolutionized the way crimes are investigated in Canada. It is a key component of the National Police Services' (NPS) commitment to provide high-quality, cutting-edge investigative services to federal, provincial and municipal police agencies.

The value of DNA to police investigators is nothing less than remarkable; in fact, the impact of DNA identification is so

profound that some of Canada's oldest and most challenging criminal cases are now being solved.

The NDDB is a major asset in solving these criminal investigations through two distinct DNA indices: the Crime Scene Index (CSI) and the Convicted Offender Index (COI).

The CSI profiles in the NDDB are received directly from all RCMP forensic laboratories across Canada, (Ottawa, Edmonton, Vancouver, Regina, Halifax and Winnipeg), as well as from the Centre of Forensic Sciences in Toronto and Montréal's Laboratoire de sciences judiciaires et de médecine légale.

As part of NPS, and as a model of integrated policing, the CSI profiles are developed from crime scene evidence sent to the regional laboratories from across Canada.

Meanwhile, the COI profiles are developed at the NDDB from biological samples collected from convicted offenders, in accordance with sections 487.051, 487.052, 487.055 and 487.091 of the *Criminal Code*.

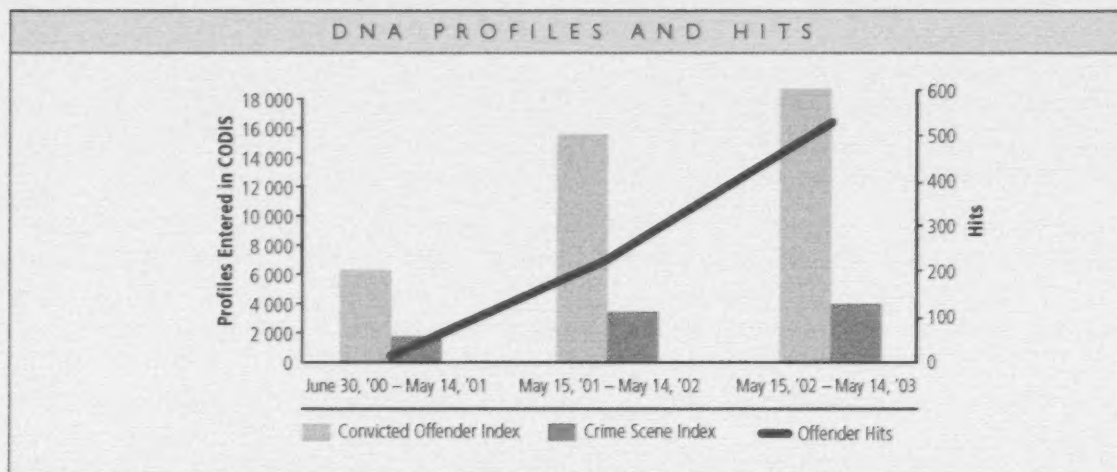
Demonstrating the power of this forensic tool, biological samples yielding a DNA profile collected from crime scenes can either link a person to that crime or rule out a suspect as the perpetrator. Moreover, DNA profiles from different crime scenes can be compared, linking the same suspect to multiple offences locally, nationally, or internationally.

The remarkable work of the NDDB staff also touches the lives of many victims' families, bringing closure and peace of mind in the midst of tragedy.

It has often been stressed that the success of a forensic DNA data bank is directly proportional to the increase in the number of DNA profiles. The figures contained in this third *Annual Report* validate this notion. Three-year totals stand at 40,097 Convicted Offender Index profiles and 9,090 Crime Scene Index profiles.

In the last year alone, 526 matches were identified, resulting in an extraordinary, three-fold increase over the previous year!

The success of the National DNA Data Bank is having a positive impact on the global law enforcement community, particularly through the RCMP's international agreement with Interpol. This accord allows for the sharing



of DNA information while, at the same time, protecting the privacy and security of the individuals involved.

As these international trends toward integration have intensified in the post 9/11 global environment, I am gratified that the sharing of DNA information with the rest of the world supports the RCMP's strategic objective of integrated policing. The international activities of the NDDB are a model for institutions and governance systems that are moving toward greater collaboration, integration and interoperability.

Looking ahead, developments at the National DNA Data Bank include using enhanced automation

and robotics to process more DNA samples in a shorter period of time. New technology will help staff to capitalize on the success they have had in building DNA indices, as well as position the NDDB to better respond to various types of forensic investigations, including mass disasters.

The phenomenal success of the National DNA Data Bank is due to the dedication, determination and support of its employees, as well as our partners in government and the law enforcement community. Together, we will continue to work towards safe homes and safe communities for all Canadians.



Message from the Chief, National Police Services

It is with immense pride that I take this opportunity to comment on the overwhelming success documented in the third *Annual Report of the National DNA Data Bank (NDDB)*.



**4 Assistant Commissioner
JAJ (Mike) Buisson**
Chief, National Police Services

During this past year, the NDDB has had a tremendous impact on the National Police Services' (NPS) role in supporting the law enforcement and criminal justice communities across Canada and around the world. The excellent work of the NDDB has equipped front-line police with a cutting-edge forensic tool that produces key evidence in criminal cases.

The success of the National DNA Data Bank is recognized around the world and has led to an enhanced international component.

Under the RCMP's International Agreement with Interpol, searches by the NDDB have resulted in

new matches between crime scenes, as well as a match between a U.S. crime scene and a convicted offender in Canada. I am very pleased that this proactive approach of sharing information with other countries has assisted police authorities in the identification of criminals. This clearly demonstrates the NPS commitment to integrated policing.

This year's report chronicles the significant increase in the number of cases where crimes have been successfully linked to offenders, improving the safety and quality of life for Canadians and providing peace of mind for victims' families.

I am confident that, as more DNA samples are processed by the NDDB, its positive impact will continue to grow in the years to come.

Message from the Assistant Commissioner Forensic Laboratory Services

The mandate of the National Police Services (NPS) is to provide tools to law enforcement that contribute to the well being of Canadians and drive the barometer of crime down so that we may all enjoy safe homes and safe communities.

The business of the Forensic Laboratory Services (FLS) is to develop and maintain forensic science tools. To that end, the National DNA Data Bank (NDDB) is a resounding success.

Genetic study and specifically, the application of human DNA analysis to law enforcement have experienced very rapid growth in the past decade. The use of genetic information in data banks to link crime scene to crime scene, or crime scene to convicted offender, has proven exceptionally powerful.

To date, the National DNA Data Bank has assisted in 762 designated offence investigations for crime scene to offender, and 50 matches for crime scene to crime scene. The value added to these investigations in time and cost savings is substantial.

Innovation is a cornerstone of the NDDB and our scientists are developing methods to introduce new technology into the processing of DNA samples. In fact, staff are developing new technologies that will expedite the arrival of the next generation of DNA analysis.

As well, the NDDB is developing methods, technology and software to identify victims of mass disasters and for fast triage of high volume crime, such as break and enter. I am very proud of this body of work and feel very fortunate to be associated with such a dedicated group of professionals.

The National DNA Data Bank has not reached its full potential and it is evident that fewer post-conviction NDDB orders have been made than were anticipated.

There are several reasons for this, including a need for more education and communication amongst all our stakeholders and partners.

Three years after its inception, the value of this powerful forensic tool is widely recognized and there is a collaborative effort to move forward towards realizing its full potential.

My office, in concert with the Office of the Chief, National Police Services, will continue to support the efforts of the NDDB Team who are working so hard to make it a success. Additionally, I would like to recognize the National DNA Data Bank Advisory Committee and its contributions in guiding the Commissioner and the Forensic Laboratory Services with the administration of the NDDB.



J.L. Buckle
Assistant Commissioner
Forensic Laboratory Services

5

Executive Summary

BACKGROUND

DNA is the fundamental building block for our entire genetic makeup. With the exception of identical twins, each person's DNA is unique. Highly discriminating, it is a powerful tool for identifying individuals.

Using modern technology, DNA can be extracted from a small biological sample, such as a few drops of blood, the root of one hair, or by swabbing the inside of the mouth.

This sample can then be analyzed, creating a DNA profile that can be used to identify a person. That profile, in turn, can be compared to an unknown DNA profile drawn from a different biological sample. If the profiles match, the two samples come from the same person (or identical twins). If the profiles do not match, the samples come from different people.

The value of DNA to police investigations is remarkable. Biological samples collected from a crime scene can either link a suspect to that scene, or rule the suspect out. Evidence from different crime scenes can be compared to link the same perpetrator to multiple offences, whether the crimes took place locally, across the country or halfway around the world.

HIGHLIGHTS FROM 2002-03

Now three years old, the National DNA Data Bank continues to play a pivotal role in supporting the law enforcement and criminal justice communities across Canada. NDDDB personnel have already helped to solve 762 criminal cases.

In the year since its last Annual Report, the total number of "hits" has more than tripled from 236 to 762!

An offender "hit" occurs when a biological sample from a crime scene is sent to the National DNA Data Bank and the resulting DNA profile matches that of an individual included in the NDDDB's Convicted Offender Index (COI).

A forensic "hit" occurs when a crime scene DNA profile is sent to the Crime Scene Index (CSI) of the National DNA Data Bank and matches another profile from at least one other crime scene.

Since the opening of the NDDDB, 40,097 DNA profiles from convicted offenders have been processed and added to the National DNA Data Bank, along with 9,090 profiles from crime scenes. Annual sample totals for next year are expected to be even higher.

The NDDDB employed 25 full-time staff in 2002-03, with a total operating budget of almost \$3.2 million.



PRIORITIES FOR 2003-04

There are many reasons to be positive about the ways in which the National DNA Data Bank is improving the safety and security of Canadians. Furthermore, as the NDDDB approaches full capacity, its impact will rise exponentially as increasing numbers of samples are processed.

For that to happen, the NDDDB must continue to focus on education and communication. Together with legal, government and police partners, the message is getting out that the NDDDB is capable of handling tens of thousands of samples a year. Recognizing that the implementation of new legislation takes time, it is incumbent on the NDDDB and its proponents to spread the word and encourage full application of the law in order to generate as many legitimate samples as possible for both primary (see *Appendix A*) and secondary (see *Appendix B*) offences.

Other priorities include the use of automation to boost both the volume of samples being processed and the speed at which they are handled by the National DNA Data Bank. Technology is also playing an increasingly important role in the use of forensic DNA should we be called upon to identify victims of mass disasters.

The offence of "break and enter" has also become a priority for the NDDDB. Experience in other countries has shown that offenders who commit violent crimes like murder and sexual assault are also likely to have committed non-violent offences like break and enter. The NDDDB's ability to generate "hits" on the more serious offences will rise steadily as the number of samples for secondary offences are entered into the Convicted Offender Index.

The contributions of the NDDDB are not limited to within Canada's borders. A new international agreement means information is being shared between countries and police agencies are collaborating more frequently on challenging, multi-national investigations.

In Canada and abroad, the power of forensic DNA, the collaboration of many partners, and the professionalism of NDDDB personnel have combined to solve scores of complex criminal cases. As awareness increases and technology improves, the success stories will multiply to the benefit of us all.

From the Front Lines

Editor's Note: The following report was submitted by the Toronto Police Service Sex Crimes Unit, Cold Case Section

The Toronto Police Service has assigned full-time personnel to tackling a troubling number of unsolved sexual assault investigations. Our first full year of operation in 2002 served as an excellent example of the power of DNA evidence to solve cases that had previously gone cold.

In January 2002, the Cold Case Section partnered with the Ontario Ministry of Public Safety and Security, Centre of Forensic Sciences (CFS) Biology Section, to review these unsolved cases. Our hypothesis was that advancements in forensic DNA technology and changes in DNA law would assist in solving many of them.

The partnership has been successful in closing a number of serious sexual assault files. Critical to that success was the role of the National DNA Data Bank.

Doing our homework

Of the 261 cases reviewed in 2002, we were able to submit 67 samples to the Centre of Forensic Sciences for DNA testing. From those samples, 37 crime scene DNA profiles were then uploaded into the National DNA Data Bank. The NDDB made five crime scene to crime scene matches, meaning the perpetrators of the Toronto attacks could be linked to at least one other crime scene in the NDDB's Crime Scene Index.

Not only is this crucial to identifying previously unknown serial sexual offenders, but it has also allowed for new investigative information in attempting to identify an offender in each of the linked cases.

A second component of our partnership with the Centre of Forensic Sciences was the re-typing of existing crime scene DNA profiles from unsolved cases on file at the Centre. These were also submitted to the National DNA Data Bank. As a result, more than 130 crime scene DNA profiles were loaded into the NDDB which included 69 sexual assaults, 24 homicides and 7 attempted homicides.

The DNA crime scene profiles are used to identify or eliminate persons of interest named in the original investigation by obtaining a DNA sample and comparing it with the crime scene profile.

Case #1: Residential Assault

In early February 1997, an unknown assailant broke into the home of a woman while she slept, attacking and sexually assaulting her. Intensive efforts to identify the attacker were unsuccessful and the case went cold.

Five years later, DNA obtained in the attack was submitted by the CFS to the National DNA Data Bank. NDDB staff made a "hit", matching the crime scene profile to a known offender, who has since been charged in the attack and faces a criminal trial.

Case #2: Serial Attacker Charged

In four separate incidents in the spring of 1991, women were attacked and sexually assaulted after taking public transit in Toronto's west end. The attacker wore a balaclava and was armed with

a knife. Investigators believed the same person was responsible for all four crimes, but they were unable to gather enough evidence to make an arrest.

Between July and September of that same year, four other women were attacked and sexually assaulted in their homes in Brampton, northwest of Toronto. The attacker's modus operandi was the same. Intensive efforts by the Peel Regional Police Service led to an arrest and in 1992 a man was sentenced to 13^{1/2} years in prison. However, the Brampton and Toronto cases were never linked.

A decade later, Peel Police received court authorization to obtain a blood sample from the offender for processing by the National DNA Data Bank. In February 2002, a biological sample obtained from one of Toronto's unsolved cases was reamplified and submitted to the NDDB, where staff made a "hit" on the Convicted Offender Index. The offender was eventually charged in all four unsolved Toronto cases.

At the time of publication, the case was awaiting preliminary inquiry.

Case #3: Solving a 20-year-old Assault

In November 1981, a man armed with a handgun sexually assaulted a 14-year-old girl walking home from a mall in Mississauga, just west of Toronto. A lengthy police investigation failed to identify the offender.

Some 12 years later in June of 1993, three women were attacked and sexually assaulted in their homes in the east end of Toronto. The attacks were similar in nature and led investigators to believe the same perpetrator was responsible, although they were unable to identify him.

In early 2002, Peel Regional Police submitted evidence from the 1981 sexual assault to the CFS

for reanalysis. A crime scene DNA profile was sent to the NDDB.

At about the same time, the Cold Case Section had DNA from the 1993 case sent to the NDDB where a crime scene to crime scene match was made, linking the 1981 and 1993 cases. A joint service investigation was launched immediately to identify the unknown offender linked by DNA evidence.

The next key development occurred in January 2003, when an alert crime analyst with the Peel Police was able to identify a person – believed to be the offender – who was subsequently found in the United States where he is currently serving a sentence for serious offences. He has previous convictions for sexual assault and murder, and is wanted in Jamaica for an outstanding homicide.

The value of DNA evidence and the contribution of the National DNA Data Bank cannot be overstated. Without them, none of these cases would have been solved.



DNA 101

What is DNA? Deoxyribonucleic acid (DNA) is a long, double-stranded molecule that looks like a twisted rope ladder or double helix.

Sometimes referred to as the blueprint of life, DNA is the fundamental building block for your entire genetic makeup. When sperm and egg unite, equal amounts of DNA from your mother and father come together. DNA is found in virtually every tissue in the human body. The DNA in your blood is the same as the DNA in your skin cells, saliva and the roots of your hair. Highly discriminating, DNA is a powerful tool for identifying individuals. With the exception of identical twins, each person's DNA is unique to them. Only a very small amount of blood or semen is required to identify an individual.

Using modern technology, DNA can be extracted from a small biological sample, such as a few drops of blood. This sample is then analyzed, creating a DNA profile that can be used to identify a person. A DNA profile, drawn from a known biological sample, can be compared to an unknown DNA profile drawn from a different biological sample. If the profiles match, the two samples come from the same person (or identical twins). If the profiles do not match, the samples come from different people.

The value of DNA to police investigations is enormous. Biological samples collected from a crime scene can either link a suspect to the scene, or rule the suspect out as the donor of the DNA. Evidence from different crime scenes can be compared to link the same perpetrator to multiple offences, whether the crimes took place locally, across the country, or halfway around the world. It can also identify a victim through DNA submitted by close relatives.

The DNA molecule is very stable. This means that usable DNA can often be found on evidence that is decades old. The stability of the molecule, combined with the discriminating features of each individual's DNA and the accuracy of current DNA analysis techniques, makes DNA evidence an extremely reliable forensic tool.

DNA and the Courts

In 1983, a young woman was found murdered and sexually assaulted in a small British town. In spite of a thorough police investigation, the case could not be solved. Three years later, another young woman was murdered and sexually assaulted in a nearby community.

A suspect was eventually identified in the first case. Police sent samples of forensic evidence from both crime scenes and a sample of the suspect's blood to Dr. Alec Jeffreys, a prominent British scientist conducting research on DNA.

Dr. Jeffreys was able to give the police two critical pieces of information:

1. DNA evidence collected at both crime scenes came from the same person (thereby linking the crime scenes together and identifying a serial offender); and,
2. The suspect's DNA did not match the sample from the crime scenes (exonerating the original suspect, who had actually signed a confession).

Blood samples were later taken from more than 4,500 men in surrounding communities and a match was eventually found. One man was convicted of both violent crimes.

Creating a National DNA Data Bank

In 1989, DNA analysis was first used by the Royal Canadian Mounted Police (RCMP) in an investigation in which a suspect denied any involvement in a sexual assault, but the victim identified him as the attacker. DNA analysis later confirmed the victim's story. When confronted with the DNA test results in court, the suspect changed his plea to guilty.

Although the RCMP started using DNA analysis in 1989 there was, at this early stage, no central coordination at the national level that could help police take full advantage of the unfolding advances in DNA technology. In order for this new tool to be used to its full potential, there was a need to coordinate DNA profiling data from investigations across the country. With support from all levels of government, the general public and police agencies throughout Canada, decisive steps were taken to create the National DNA Data Bank (NDDB).

In 1996, the Department of the Solicitor General and the Department of Justice undertook consultations across Canada regarding the establishment of a national DNA data bank. The following groups participated in these consultations:

- Provinces and territories
- Police associations
- Privacy officials
- Legal associations
- Victim advocates
- Women's groups
- Correctional institutions
- Forensic and genetic organizations

Confirming the Government of Canada's commitment to combat crime – especially violent crime – Bill C-3, the *DNA Identification Act* (S.C. 1998 c.37) received Royal Assent on December 10, 1998, and was proclaimed in force on June 30th, 2000.

That same year, Parliament enacted Bill S-10, *An Act to amend the National Defence Act*, the *DNA Identification Act*, and the *Criminal Code* (S.C. 2000, c.10).

The RCMP then committed to build a national DNA data bank and to make it operational within 18 months from Bill C-3 receiving Royal Assent. The budget for the design and construction project was \$10.9 million including implementation, operations, maintenance and capital costs. The project was completed on time and approximately one per cent under budget.

The NDDB is part of the National Police Services, administered by the RCMP for the benefit of the entire Canadian law enforcement community. It currently employs 25 people and operated over the last fiscal year on a budget of approximately \$3.2 million. When the NDDB reaches full capacity – 30,000 convicted offender samples per year – the number of staff will increase to 33 and the annual budget closer to \$5 million.

The National DNA Data Bank (NDDB)

The NDDB is located at RCMP Headquarters in Ottawa and is a branch of the Forensic Laboratory Services. It contains the Convicted Offender Index (COI) and the Crime Scene Index (CSI). These represent two different sets of information in which DNA profiles are developed and compared.

The Role of the National DNA Data Bank

The NDDB assists law enforcement agencies in solving crimes by:

- Linking crimes together where there are no suspects;
- Helping to identify suspects;
- Eliminating suspects where there is no match between crime scene DNA and a profile in the NDDB; and,
- Determining whether a serial offender is involved.

The National DNA Data Bank improves the administration of justice by ensuring that those who commit serious crimes are identified more quickly across all police jurisdictions in Canada while removing innocent people from suspicion.

Thousands of police officers across Canada have been trained to collect DNA samples, which are then forwarded to the National DNA Data Bank for analysis. As of May 14th 2003, there have been 40,097 DNA profiles from convicted offenders processed and added to the NDDB, along with 9,090 profiles from crime scenes.

Cutting Edge Technology

Canada's National DNA Data Bank relies heavily on robotic technology to dramatically speed up the processing and analysis of DNA samples. The robotics, combined with a world-class inventory and sample tracking system, allow NDDB personnel to process more samples in less time and at a significantly lower cost than other facilities around the world. The specialized sample tracking and control system also protects the privacy of the individual and ensures security of the data.

Protecting Privacy

Every effort has been made to balance a suspect's right to privacy with the need for police officers to collect evidence.

Consistent with the *DNA Identification Act*, the RCMP has imposed strict procedures governing the handling of DNA profiles and biological samples to ensure that privacy interests are protected. Information collected by the NDDB is used strictly for law enforcement purposes.

A National DNA Data Bank Advisory Committee has also been established to advise the Commissioner of the RCMP on matters relating to the establishment and operation of the NDDB. These matters are consistent with the requirements of the *DNA Identification Act* regarding privacy, legal, ethical and human rights issues.

Protecting Privacy

Personal information is collected on the fingerprint form. On the separate FTA® card*, a biological sample (blood, buccal or hair) is collected, along with another set of fingerprints.



Fingerprint Form

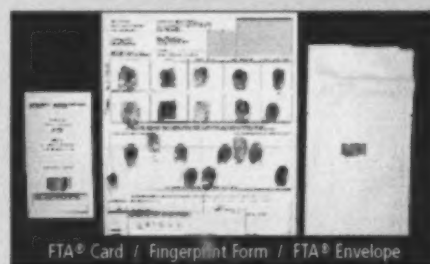


FTA® Card



Inside FTA® Card

There is no personal information on the FTA® card. The fingerprint form is linked to the FTA® card by a unique bar code. This approach secures the data and protects the privacy of the individual.



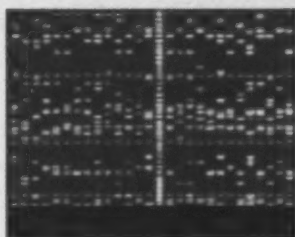
FTA® Card / Fingerprint Form / FTA® Envelope

When the NDDB receives the kit, the fingerprints on the FTA® card are matched to the fingerprint form and the donor is verified. The bar code number is logged into the NDDB.



The FTA® card is separated from the personal information

The biological sample is sent to the laboratory for DNA analysis and the profile is entered into the NDDB.



The fingerprint form is sent to the Information and Identification Services and logged onto the system.

**FTA® paper is impregnated with special chemicals that preserve and protect the biological sample (DNA) while neutralizing harmful bacteria and viruses. The samples can be safely collected and efficiently processed with automation while enabling long-term storage at room temperature.*

The Working Science

The **Convicted Offender Index (COI)** is the electronic DNA profile database developed from biological samples collected from:

1. Offenders convicted of designated primary and secondary offences (see *Appendices A and B*) identified in section 487.04 of Canada's *Criminal Code*, and
2. Retroactive offenders who fall within categories identified in section 487.055 of the *Criminal Code*. This would include offenders convicted of multiple murders or sexual offences before the *DNA Identification Act* went into effect in June, 2000. Convicted criminals designated as dangerous offenders prior to this date are also included.

The **Crime Scene Index (CSI)** is a separate electronic database composed of DNA profiles obtained from crime scene investigations of the same designated offences.

Thousands of police officers across Canada have been trained to collect biological samples from convicted offenders that are then forwarded to the National DNA Data Bank for DNA analysis.

Biological samples can be collected in three ways:

1. **Blood.** The sample is obtained by pricking the fingertip with a sterile lancet and collecting bloodstains on a specially prepared sample card.
2. **Buccal.** The sample is obtained by rubbing the inside of the mouth with a foam applicator to obtain skin cells that are then transferred to the sample card.
3. **Hair.** The sample is obtained by pulling 6-8 hairs with the root sheath attached and placing them on a special sample card.

The Convicted Offender biological samples (blood, buccal or hair) are collected across Canada and are processed into DNA profiles at the National DNA Data Bank.

The information is entered into "CODIS" (Combined DNA Index System), a software that stores and compares DNA profiles. CODIS was developed by the FBI and the U.S. Department of Justice and provided to the NDDB at no cost. This software program provides a universally accepted standard for forensic laboratories to compare DNA results.

The Crime Scene Index samples are processed from biological evidence collected at crime scenes as forensic casework by the three public forensic laboratory systems in Canada: RCMP Forensic Laboratory Services (Vancouver, Edmonton, Regina, Winnipeg, Ottawa and Halifax); Laboratoire de sciences judiciaires et de médecine légale (Montréal, Québec); and the Centre of Forensic Sciences (Toronto, Ontario).

The National DNA Data Bank retains an electronic index of the DNA profile data from the crime scene along with basic details such as the date, location of the donor laboratory and a unique number identifier that allows information to be compared by the donor laboratory in the event of a future match. It is important to realize that both crime scene samples and convicted offender samples are identified simply by a bar code number.

In fact, the process separates the donor identity of the convicted offender from the genetic information at the time the sample arrives at the NDDB. A bar code number links the personal information to the DNA sample.

This link is protected information that is not accessible by NDDB staff and is kept by the RCMP's Canadian Criminal Records Information Service (CCRIS).

The DNA profiles obtained from either convicted offender samples or crime scene samples are the result of 13 special tests that produce a DNA blueprint, unique to each individual.

Canadian law makes it very clear that the NDDB profiles can only be used for law enforcement purposes. The regions of interest that Canadian forensic scientists use for profiling are considered anonymous pieces of DNA and, apart from gender, do not specify any medical or physical information about the donor. The 13 core tests or "loci" chosen for forensic analysis in Canada are the same regions of genetic variation used throughout the United States and in many other countries using forensic DNA analysis.

DNA Processing

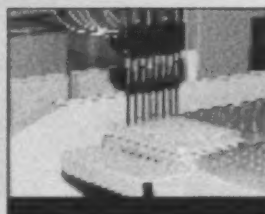
1.

Blood (or buccal or hair) sample collected by officer



6.

Multiple DNA samples simultaneously processed using robots.



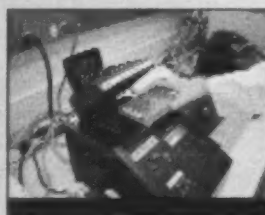
2.

Blood spotted on FTA® collection card.



7.

DNA fragments of interest are labeled with a fluorescent marker and amplified.



3.

Donor identity checked by fingerprints.



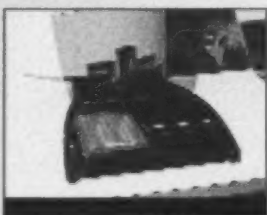
8.

DNA analyzed using a DNA sequencer.



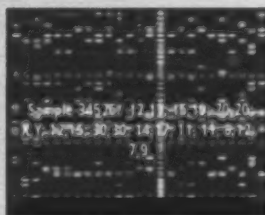
4.

Sample plate bar coded and prepared.



9.

13 different DNA tests analyzed and then profile simplified to a series of numbers.



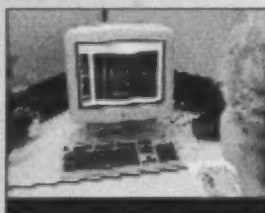
5.

1.5mm disk punched from sample cards into each of 96 wells on plate.

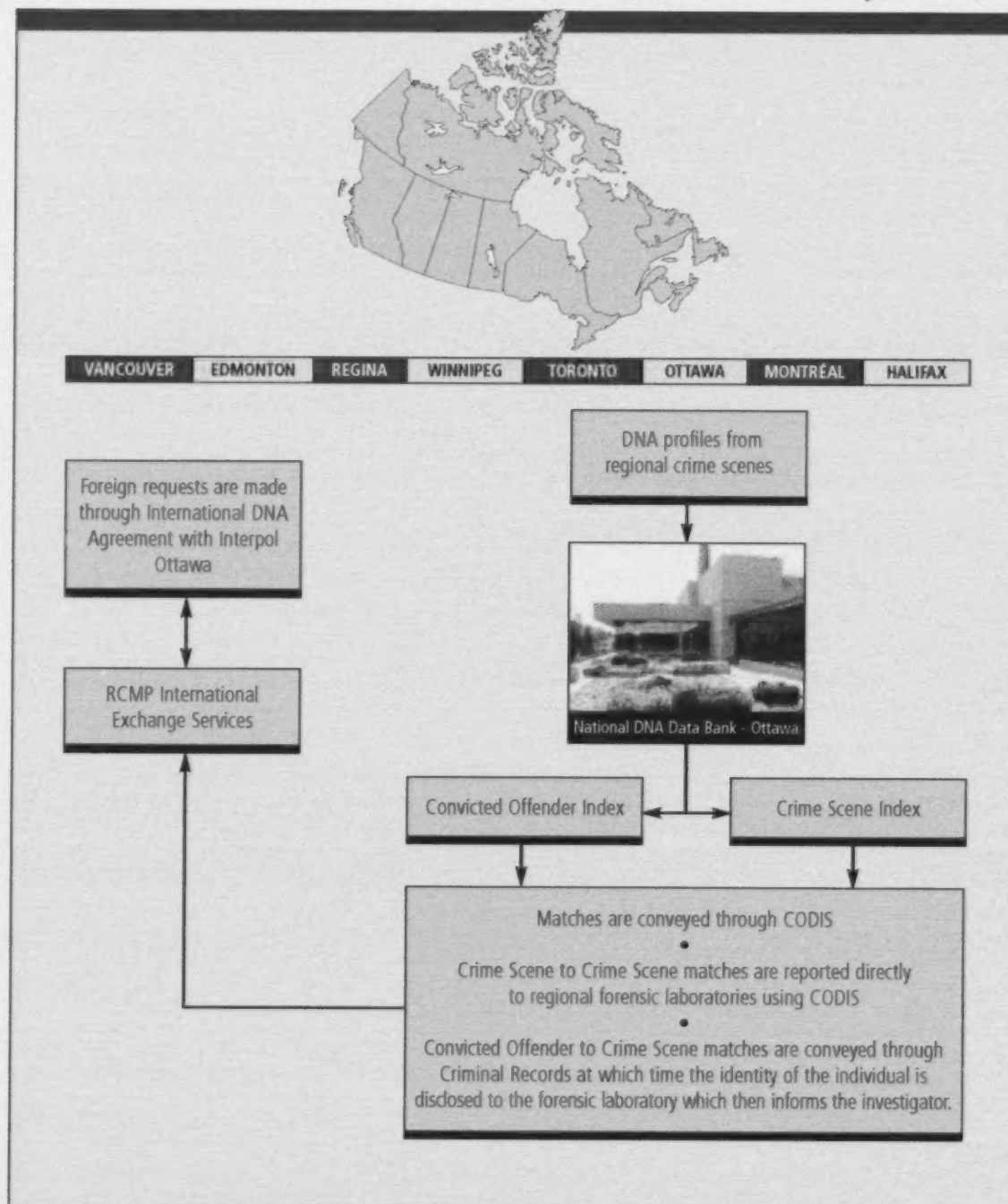


10.

DNA profile entered into CODIS and matched against other profiles.



Canadian CODIS (Combined DNA Index System)



Key Statistics (as of May 14, 2003)

TABLE 1

CASES ASSISTED BY THE NDDB	
Murder	53
Sexual Assault	168
Attempted Murder	34
Robbery (armed)	116
Break and Enter	340
Assault	42
Others	9
TOTAL	762

TABLE 2

MATCH INVENTORY REPORT	
Offender "Hit" – Crime Scene to Offender	762
Forensic "Hit" – Crime Scene to Crime Scene	50
Offender Duplicate	794
Identical DNA profiles but different individuals (Identical twins)	15

Explanatory Notes

An **offender "hit"** occurs when a DNA profile developed from a biological sample from a crime scene is sent to the NDDB and it matches an individual's DNA profile included in the NDDB's Convicted Offender Index.

A **forensic "hit"** occurs when a crime scene DNA profile is sent to the Crime Scene Index of the NDDB and matches that from at least one other crime scene included in the NDDB's Crime Scene Index.

Offender duplicate refers to cases where two samples from the same person were submitted to the NDDB.

Identical DNA profiles but different individuals (Identical twins) refers to the DNA profiles of fifteen sets of identical twins that are contained in the NDDB's Convicted Offender Index.

TABLE 3

DNA PROFILES ENTERED INTO THE NDDB	
Entered into the Convicted Offender Index	40,097
Entered into the Crime Scene Index	9,090

The NDDB receives 350 to 450 convicted offender samples per week.

Explanatory Notes

Convicted Offender Profile: A DNA profile from an offender who was convicted of a designated offence (e.g. homicide, sexual assault, assault with a weapon, etc.). For a complete list of primary offences, see Appendix A; for secondary offences, see Appendix B.

Crime Scene Profile: A DNA profile derived from a biological substance left at the scene of a crime.

TABLE 4

CRIME SCENE INDEX PROFILES RECEIVED

Laboratoire de sciences judiciaires et de médecine légale (Montréal)	2,737
Centre of Forensic Sciences (Toronto)	3,414
RCMP Labs (Vancouver, Winnipeg, Edmonton, Regina, Halifax, Ottawa)	2,939
TOTAL	9,090

TABLE 5

CONVICTED OFFENDER SAMPLES RECEIVED

Retroactive	1,726	Primary	55%	23,298
Retrospective	19,962	Secondary	44%	18,456
Prospective	20,321	Non-designated	1%	255
TOTAL	42,009			

19

Alberta	3,677
British Columbia	3,797
Manitoba	2,590
New Brunswick	599
Newfoundland	620
Nova Scotia	822
North West Territories	308

Nunavut	192
Ontario	20,719
Prince Edward Island	68
Québec	6,608
Saskatchewan	1,937
Yukon	72

Explanatory Notes

The **Convicted Offender Index** is a post-conviction database composed of three categories of samples.

Retroactive: A sample taken from an offender who was found guilty of a designated *Criminal Code* offence before June 30th, 2000 and who 1) had been declared a dangerous offender, 2) was convicted of more than one murder committed at different times, or 3) was convicted of more than one sexual offence, and on June 30th, 2000 was serving a sentence of at least two years for one or more of those offences. Approximately 2,000 offenders were identified on the retroactive offenders list. All of these offenders have been processed and their certified criminal history forwarded to provincial/territorial Attorneys General. A total of 1,866 of these files have been concluded, with the remainder being prepared by the Attorneys General for court applications. It is anticipated that all files will be concluded by spring 2004.

Retrospective: A sample taken from an offender who committed a designated offence before June 30th, 2000 and was convicted after that date.

Prospective: A sample taken from an offender who committed and was convicted of a designated offence after June 30th, 2000.

Primary Offences (see Appendix A)

Secondary Offences (see Appendix B)

Non-designated: A sample taken from an offender who (1) was convicted of an offence that is not a primary or a secondary designated offence, or (2) does not belong to one of the categories of offenders set out in the retroactive scheme.

Samples Received versus Profiles Entered

As of May 14th 2003, the NDDB had received 42,009 biological samples and from these samples 40,097 DNA profiles were entered into CODIS. This 1,912 difference can be attributed to the rejected samples (see table 7), the duplicate samples (see table 2) and the DNA samples in process.

TABLE 6

TYPE OF DATA BANK SAMPLES RECEIVED FROM CONVICTED OFFENDERS

Blood	41,142	97.9%
Buccal	799	1.9%
Hair	68	0.2%
TOTAL	42,009	

In some instances, samples had to be taken a second time, pursuant to subsection 487.091(1) of the *Criminal Code*, which provides for an application for resampling where a DNA profile cannot be derived from the original sample. Since June 30th 2000, the NDDB has received 81 samples that were taken under this provision.

TABLE 7

SAMPLE REJECTIONS	
Non-designated offences	255
Biological samples inadequate	82
Wrong Kits	85
No orders (consent)	5
Others	32
TOTAL	1.1% 459

Note:

These figures do not include sample kits submitted without fingerprints. Typically, if an affidavit from the collection officer is provided at a later date, continuity is established and the samples can be accepted. Since June 30th 2000, the NDDB received 340 sample kits that did not contain fingerprint information on the sample collection

card or the fingerprint identification form. In some instances, samples had to be taken a second time using the provision provided by the *DNA Identification Act* using form 5.09.

Approximately one per cent of samples cannot be accepted by the National DNA Data Bank for the reasons listed above.

TABLE 8

BREAKDOWN OF CONVICTED OFFENDER SAMPLES RECEIVED	
Young Offenders	6,224
Adult Offenders	35,770
Military Offenders	15
TOTAL	42,009

TABLE 9

CONVICTED OFFENDER INDEX BREAKDOWN OF OFFENCES

Homicide	997
Sexual Assault	6,709
Break & Enter / Robbery	12,363
Assault	24,802
Other	2,903

Explanatory Notes

The **Homicide** category includes manslaughter.

The **Sexual Assault** category includes rape, sexual intercourse with female under 14 and between 14 and 16, sexual intercourse with feeble-minded, sexual interference, invitation to sexual touching, sexual exploitation, incest, bestiality in the presence of or by a child, child pornography, indecent acts, offence in relation to juvenile prostitution, sexual assault with weapon, and aggravated sexual assault.

The **Break & Enter/Robbery** category is limited to the two offences.

The **Assault** category includes assault with a weapon or causing bodily harm, aggravated assault, and assaulting a peace officer.

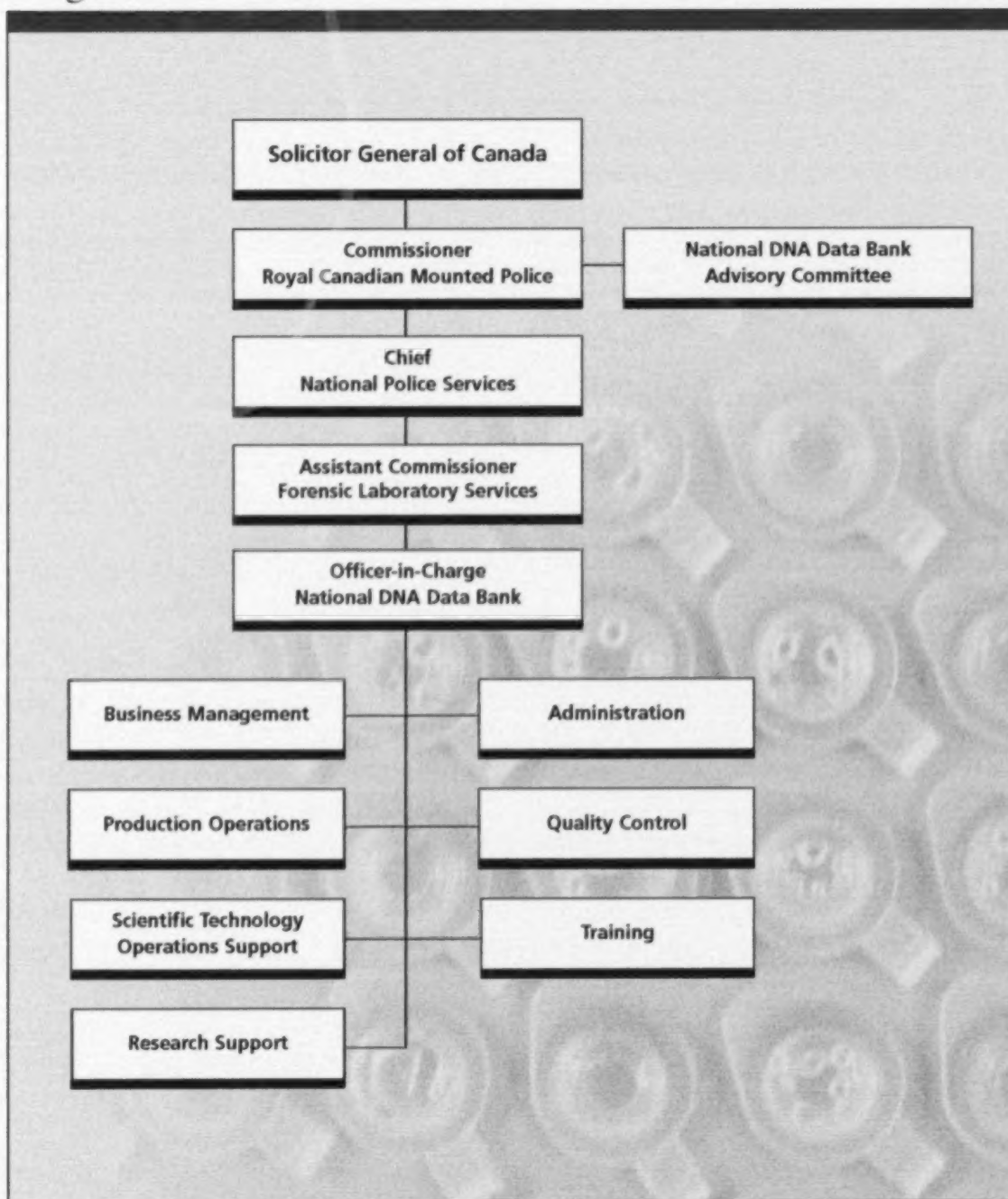
The **Other** category includes using explosives, causing death by criminal negligence, causing bodily harm by criminal negligence, causing bodily harm with intent, dangerous operation causing bodily harm, dangerous operation causing death, failure to stop at scene of accident, impaired driving causing bodily harm, impaired driving causing death, unlawfully causing bodily harm, kidnapping, hostage taking, mischief causing danger to life, arson - disregard to human life, setting fire to other substance, arson - own property.

TABLE 10

SAMPLES / PROFILES REMOVED FROM THE DATA BANK

Conviction quashed on appeal	7
Authorization quashed	1
Judge ordered destruction of the sample on a conviction with a suspended sentence	1
Rejected contaminated sample	2
Rejected sample initially ordered for a non-designated offence	1

Organizational Structure



Currently, the National DNA Data Bank has a personnel of 25 full-time individuals.
At full capacity, the NDDB would require 33 employees.

International Success

Of the many important milestones at the National DNA Data Bank, one of the most significant took place on April 25, 2002. On that day, the RCMP signed an agreement with Interpol to share DNA information in support of international criminal investigations.

Interpol is the largest international police organization in the world, providing a wide range of services to the law enforcement community. Canada is one of 181 member countries from five continents. Interpol's General Secretariat in Lyon, France provides a fast and reliable communication system linking police around the globe.

Within weeks of signing the agreement, police in New York City asked for help from the NDDDB through Interpol.

They sent a crime scene profile from a longstanding, serial sexual assault case that had reached a dead end. To the delight of U.S. investigators, a search

of the Crime Scene Index (CSI) produced a match with an unsolved sexual assault in Québec.

Through close cooperation between Canadian and U.S. police agencies, the suspect was arrested and returned to New York to face charges.

The second international "hit" came as the result of exceptional police work, combined with powerful science and a stroke of good fortune. The story is detailed on page 34 as part of our "Case Study" section.

To date, Canada has received 81 profiles from around the world to be searched in the NDDDB. Canada has made nine requests to other countries.

The early success of these international searches is an encouraging sign for the future as forensic science and sophisticated technology help police solve complex multi-national investigations. Formal agreements also safeguard the privacy and security of DNA information.

Financial Statement

EXPENDITURES - 2002/03 FISCAL YEAR

COST DRIVER	EXPENDITURES (\$ thousands)
Personnel	1,379
Transport and communications	101
Information	13
Development and infrastructure support	802
Rentals	5
Repair and maintenance	128
Utilities, material and supplies	695
Capital and minor equipment purchases	56
TOTALS	3,179

Message from the National DNA Data Bank Advisory Committee

The Solicitor General of Canada created the National DNA Data Bank Advisory Committee in 2000 to advise the Commissioner of the RCMP on all matters related to the establishment and operation of the NDDB. The requirements of the *DNA Identification Act* regarding privacy, legal, ethical and human rights are balanced with the latest scientific developments in the application of DNA identification for law enforcement purposes.

The distinguished members of the Committee have expertise in policing, privacy, molecular biological sciences, genetics, medical ethics and the law. Considered fundamental to the operation of the NDDB, the Committee operates independently of the government and reports annually to the Commissioner of the RCMP.

In reviewing the NDDB's operation over the 2002-03 fiscal year, the Advisory Committee notes the dramatic increase in "hits" and the impact those results are having on police investigations across the country. Staff of the NDDB, and their law enforcement and government partners, are to be congratulated for their professionalism, dedication and contribution to the safety of our communities.

Despite the outstanding results, however, the Committee notes that the NDDB is not yet operating at full capacity. Given the direct correlation between the volume of samples loaded into the NDDB and the number of "hits" we are concerned that opportunities are being missed.

For primary offences, where the law states that

convicted offenders shall submit a DNA sample to the NDDB, only half of the samples are being obtained.

One of our priorities over the coming year is to raise awareness and advance the principles of the NDDB, amongst our partners and stakeholders, in order to increase the number of convicted offender sample submissions following conviction as permitted under the terms of the *DNA Identification Act*.

Our second priority also involves education. Committee members will be meeting with key audiences within the justice system to draw more attention to the importance of including less serious crimes such as break and enters in the NDDB. In recent years, the experience of other countries has demonstrated clearly that offenders who commit serious crimes like murder and sexual assault are also likely to have committed minor offences. Many violent criminals have a tendency to commit break and enters routinely throughout their criminal career. If more post-conviction NDDB orders are made in respect of convictions for secondary designated offences like break and enter, the NDDB will be in a better position to generate links to more serious offences.

We are most encouraged by the operation of the National DNA Data Bank. Moreover, we are certain that the rising volume of DNA samples will generate ever-increasing numbers of "hits" that help to convict dangerous criminals both here and abroad.

More information on the Advisory Committee and a copy of their annual report may be obtained at: http://www.rcmp-grc.gc.ca/dna_ac/index_e.htm.

25

Members of the National DNA Data Bank Advisory Committee

Richard A. Bergman
Chairperson

Dr. George R. Carmody
Vice-Chairperson

Dr. Frederick R. Bieber
Bio-Medical Ethics Specialist

Hon. Peter deCarteret Cory,
C.C., C.D., Q.C.
Representing the Law

Gisèle Côté-Harper O.C., Q.C.
Human Rights Specialist

Dr. William S. Davidson
Medical Genetics Specialist

P. Julien Delisle
Representing the Privacy Commissioner

Dr. Ron Fournery
Representing the National DNA Data Bank

Message from the Officer-in-Charge of the National DNA Data Bank

Challenges and Priorities at the National DNA Data Bank

This year, the scientific world celebrates the 50th anniversary of one of the most revolutionary discoveries in modern science.

It was 1953 when James Watson and Francis Crick first explained the structure of DNA – how two strands of a biological molecule combine to form the now familiar “double-helix.”

Few scientific breakthroughs have had such far-reaching effects. DNA is our personal database that stays with us for life and our genetic heritage that is passed on to the next generation.

DNA research is helping scientists better understand the most

insidious diseases and is pointing the way towards long-term cures.

For the law enforcement and justice communities, DNA has revolutionized criminal investigation and prosecution. It serves as the silent but credible witness, convicting the guilty while protecting and exonerating the innocent.

With the threat of terrorism as real as the persistent images of the 9/11 attacks on the World Trade Centre, DNA has emerged as an invaluable tool in identifying victims of accidents, terrorist attacks and mass disasters.



26 **Dr. Ron Fourney**
Officer-in-Charge, National
DNA Data Bank of Canada

By the Numbers

Just three years old, the National DNA Data Bank does not have the lengthy track record of similar operations in the United Kingdom or the United States. However, we are now starting to see how sample volumes play a pivotal role in forecasting success rates.

It is a simple formula. The more profiles that are entered into the National DNA Data Bank, the more “hits” that are generated to help police investigators solve serious crimes.

This year, for example, the number of profiles loaded into the Convicted Offender Index has increased by 17 per cent. As a result, we made 526 convicted offender to crime scene “hits”. That compares to 218 last year – a 141 per cent improvement!

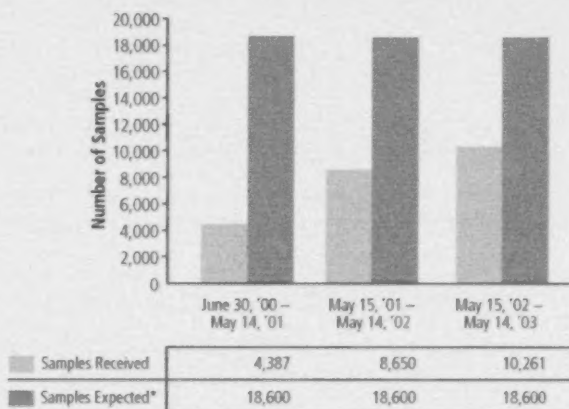
Since its inception, the NDDB has made 762 crime scene to convicted offender “hits”. The science and technology have provided solid forensic leads in some of Canada’s most difficult police investigations involving 53 murders, 168 sexual assaults and 42 aggravated assaults (as noted on page 18 in Table 1).

The Sample Barrier

Legendary test pilot Chuck Yeager broke the sound barrier in a test rocket plane, proving once and for all that “pushing the envelope” can harness the power of science and propel an aircraft faster than the speed of sound. At the National DNA Data Bank, we are pushing our own envelope that I call the “sample barrier.”

While we are very encouraged by increasing numbers of hits from our two indices, the simple fact is that

PRIMARY OFFENCE SAMPLES



*Estimated number of primary offences eligible per year for entry into the NDDB, data from Capital and Operating Expense Estimates for the NDDB, Consulting and Audit Canada, July 1998, prepared for the Solicitor General of Canada and the RCMP.

we are not receiving nearly as many DNA samples from convicted offenders as we had expected when the NDDB was launched back in June 2000.

Although the relatively new legislation may have contributed to some hesitation to enter samples into the National DNA Data Bank, open communication and the direct demonstration of the power of this technology are the means to breaking our sample barrier.

We are seeing hopeful signs as the volume of samples rises steadily and the number of "hits" generated by our two indices has increased more than three-fold in a year. As our law enforcement and legal partners see the direct benefits of this valuable new forensic tool, the importance of sample numbers, and our ability to safeguard the privacy and security of data, I am confident our results will exceed even the most optimistic predictions.

Paying Attention to Secondary Offences

DNA, one of the newest forensic tools in the modern crime-fighting arsenal, is helping to uncover new leads on the oldest and most challenging cases. Less publicized are the benefits to society of using DNA evidence to target the most common types of crime.

We are seeing an upward trend in crime scene matches with secondary offences (e.g. break and enter, arson, assault). Consistent with DNA data banks in other countries, the NDDB has noted that 15 per cent of the matches from this kind of offence match the most serious of primary designated offences, such as murder and sexual assault.

In addition, the true power of limiting serial crimes is also well noted with many secondary offences. Consider a recent "hit" in the NDDB which involved a single convicted offender DNA profile

that linked more than 40 break and enter cases in a concentrated metropolitan area. This case alone demonstrates the powerful combination of good science and determined police work.

The message is clear: what some would describe as a less serious crime can be linked directly to offences such as murder and rape. Focusing attention on secondary offences and increasing the number of samples from convicted offenders will help support complex investigations and solve the most serious crimes, as well as promote rapid, cost effective investigative intelligence for integrated policing of high volume crimes.

Bright Future

Unlike our fictitious colleagues on popular television programs, we are still a long way from solving complex cases in an hour (including commercial breaks!).

The direction and scientific management of research is conducted through knowledge, partnerships and by cultivating innovation. This year, several new approaches have been developed that will have direct application to faster and more sensitive detection of DNA profiles from some of the most environmentally challenged forensic samples.

In addition, we are exploring new forensic models should we be called upon to identify the victims of mass disaster through the use of automated data

bank protocols for DNA analysis. The development of new technologies and the sharing of applications – as well as strategies with our partners and stakeholders – will broaden the success of the National Police Services and the mandate of the NDDB to contribute the best scientific tools for forensic applications.

Shared Success

Interest in the NDDB continues to grow as indicated by the average 6,400 “hits” each month to our Web site, www.nddb-bndg.org, which is a key component of our communication and training for stakeholders and partners.

Other highlights from this past year include the contributions from our international police partners and the implementation of the DNA Information Sharing Agreement that has enabled us to support many investigations worldwide.

This year’s success is directly related to the many individuals throughout government, legal and police communities who have dedicated their expertise and time to making a difference.

We are particularly indebted to the advice and guidance provided by our senior management and the contributions made by members of the Commissioner’s National DNA Data Bank Advisory Committee.

Appendix A

LIST OF PRIMARY OFFENCES – CRIMINAL CODE

OFFENCE	SECTION
1 Approaching, entering, etc., a prohibited place	6 SIA*
2 Threats or violence	(20)(1) SIA*
3 Harboring or concealing (Security of Information)	(21)(1) SIA*
4 Piratical acts	75
5 Hijacking	76
6 Endangering safety of aircraft or airport	77
7 Seizing control of ship or fixed platform	78.1
8 Using explosives	81(1)
9 Participation in activity of terrorist group	83.18
10 Facilitating terrorist activity	83.19
11 Commission of offence for terrorist group	83.2
12 Instructing to carry out activity for terrorist group	83.21
13 Instructing to carry out terrorist activity	83.22
14 Harboring or concealing (Terrorism)	83.23
15 Sexual interference	151
16 Invitation to sexual touching	152
17 Sexual exploitation	153
18 Incest	155
19 Offence in relation to juvenile prostitution	212(4)
20 Infanticide	233
21 Murder	235
22 Manslaughter	236
23 Causing bodily harm with intent	244
24 Assault with a weapon or causing bodily harm	267
25 Aggravated assault	268
26 Unlawfully causing bodily harm	269
27 Sexual assault	271
28 Sexual assault with a weapon, threats to a third party or causing bodily harm	272
29 Aggravated sexual assault	273
30 Kidnapping	279
31 Hostage taking	279.1
32 Attack on premises, residence or transport of internationally protected person	431
33 Attack on premises, accommodation or transport of United Nations or associated personnel	431.1
34 Explosive or other lethal device	431.2(2)
<i>As they read from time to time before January 4, 1983:</i>	
35 Rape	144
36 Sexual intercourse with female under fourteen and between fourteen and sixteen	146
37 Sexual intercourse with feeble-minded, etc.	148
<i>As it read from time to time before January 1, 1988</i>	
38 Sexual intercourse with step-daughter, etc.	153.1(a)

*SIA: Security of Information Act

Note: An attempt to commit or, other than for the purposes of subsection 487.05(1), a conspiracy to commit any of the offences mentioned in the above list is also considered a primary designated offence.

Appendix B

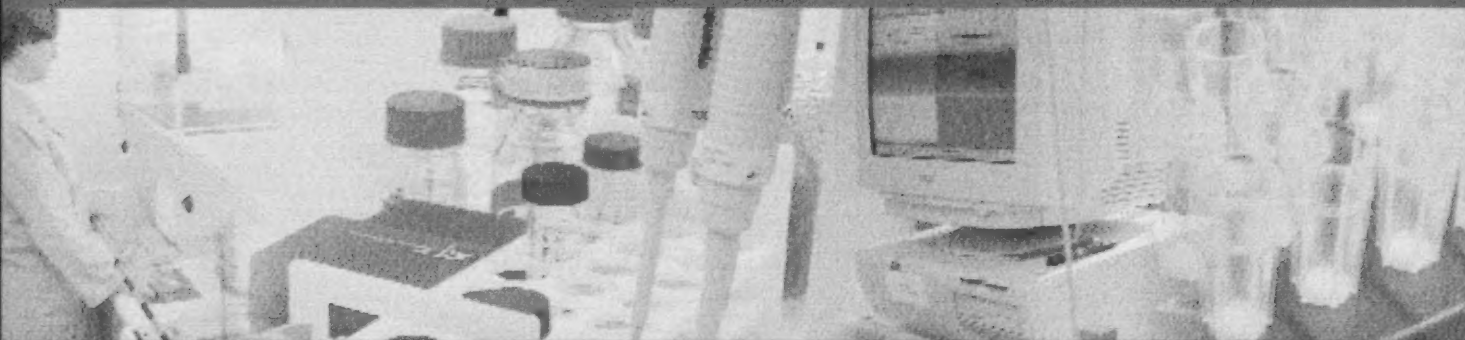
LIST OF SECONDARY OFFENCES – CRIMINAL CODE

OFFENCE	SECTION
1 Bestiality in the presence of or by child	160(3)
2 Child pornography	163.1
3 Parent or guardian procuring sexual activity	170
4 Indecent acts	173
5 Causing death by criminal negligence	220
6 Causing bodily harm by criminal negligence	221
7 Dangerous operation causing bodily harm	249(3)
8 Dangerous operation causing death	249(4)
9 Failure to stop at scene of accident	252
10 Impaired driving causing bodily harm	255(2)
11 Impaired driving causing death	255(3)
12 Assault	266
13 Torture	269.1
14 Assaulting a peace officer	270(1) (a)
15 Robbery	344
16 Breaking and entering with intent, committing offence or breaking out	348(1)
17 Mischief that causes actual danger to life	430(2)
18 Arson – Disregard for human life	433
19 Arson- Own property	434.1
<i>As they read from time to time before July 1, 1990:</i>	
20 Arson	433
21 Setting fire to other substance	434

Note: An attempt to commit or, other than for the purposes of subsection 487.05(1), a conspiracy to commit any of the offences mentioned in the above list is also considered a primary designated offence.

(I) to (V) [Repealed, 2001, c.41, s.17(4)]

(XX) [Repealed, 2001, c.41, s.17(5)]



There were a record number of “hits”
at the National DNA Data Bank this year.

Each one represents an important piece of evidence in a
criminal investigation.

Often, as these three case studies demonstrate, the NDDB
“hit” is the vital link that helps police identify the offender
in a series of violent crimes.

In two of these cases, an abandoned police investigation was
reopened after a biological sample was processed at the NDDB.

The third example is one of the early success stories resulting
from a landmark international agreement signed in 2002.



CASE STUDY I

NDDB “Hit” Solves Cold Case

He was popular in the community and a regular at church.

He raised money for local charities.

But he also had a dark side. The 36-year-old father of three pleaded guilty in the brutal 1998 rape of an Ontario teenager and was sentenced to five years in prison.

32

He would likely be a free man today if it were not for the National DNA Data Bank.

The assault, described as “vile and disgusting” by the presiding judge in the trial, took place on a residential street in Bowmanville, Ontario. The victim was walking home after spending the night with friends when she was grabbed from behind, dragged under a tree and thrown onto the ground. The attacker wore a balaclava and threatened her with a knife. The victim was sexually assaulted and was struck on the head and back.

An intense, three-month manhunt ensued. Police interviewed more than 40 people and obtained DNA samples from 20 potential suspects. The samples were submitted to the Centre of Forensic Sciences in Toronto for comparison with the attacker’s DNA extracted from biological evidence, which had been collected from the victim. There were no matches and police ran out of leads.

The break in the case came a couple of years later when the offender was convicted in another Ontario community of assault causing bodily harm. Under the *DNA Identification Act*, which had just come into effect, he was ordered to provide a sample of his blood so that his DNA profile could be generated and entered into the NDDB in Ottawa.

Soon after, NDDB personnel had a “hit” with the unsolved sexual assault from 1998.

According to the detective who led the police investigation, “It shows the money spent on the data base is leading to police finding and convicting sexual predators, where we had very little evidence. Without the National DNA Data Bank, this predator would still be out there in our midst.”



Cold Case Solved in Calgary

Seeing her attacker convicted and sentenced to a lengthy prison sentence did not make the nightmares go away, but it helped her get on with life.

In October 2002, 39-year-old Charles Desjarlais plead guilty to a crime he had committed in a Calgary neighbourhood eight years earlier.

In broad daylight, he grabbed a woman walking through a park and forced her into some bushes. Using the victim's backpack, heavily weighted with books, the attacker held her down, threatened her and raped her.

In spite of a massive police investigation, no charges were laid and the case went cold.

Fortunately, police had collected biological samples from the woman for DNA analysis. This evidence would later link Desjarlais to the crime through a "hit" by the National DNA Data Bank.

At the time of his conviction, Desjarlais was serving time for sexual interference on a young girl. Under the terms of the new *DNA Identification Act*, the judge in the case required him to submit a biological sample to the NDDB for DNA analysis. The DNA profile matched the sample from the 1994 attack and the NDDB had another "hit".

Based on the evidence developed during the investigation and the vital link produced by the National DNA Data Bank, Desjarlais plead guilty.

A senior police investigator in Calgary was quoted after the trial as saying: "I think we're just starting to see the early part of the wave here. As more people... provide samples to the (National DNA Data) Bank, there is the potential for more of these matches."



CASE STUDY 3

A Cross-Border “Hit”

It is the first DNA match linking a crime scene in one country and a convicted offender serving time in Canada.

In April 2003, the National DNA Data Bank and Interpol Ottawa made the official announcement: a convicted offender in an Alberta jail would be deported to Ohio to face sexual assault and homicide charges.

34

The milestone announcement was made possible through a landmark agreement with Interpol that allows for the international sharing of Canadian DNA profile data.

Like many successful major crime investigations, it was a combination of diligent police work and advanced science. In an effort to kick-start a stalled investigation, Ohio police used a popular television program to profile a troubling case involving sexual assault and murder.

The “America’s Most Wanted” broadcast generated several telephone tips, including one from a viewer in Western Canada who thought the suspect looked familiar.

The “tip” was called into the local RCMP detachment and the suspect was eventually found under an alias in an Alberta prison. Thomas McCray was serving time for a secondary offence (see *Appendix B*).

Under the provisions of the *DNA Identification Act*, the judge in the case had wisely ordered a biological sample to be sent to the National DNA Data Bank for DNA analysis.

With his profile loaded into the Convicted Offender Index, Interpol Ottawa was able to coordinate the comparison of DNA from the Ohio crime scene with that collected from McCray. The DNA samples matched, clearly linking McCray to the murder scene.

He was deported to the U.S. after his Canadian prison term had been fully served.